

VACATION ATHLETICS TO DEVELOP BOYS

HOW TO MAKE HEART AND LUNGS WORK WITH THE MUSCLES, INSTEAD OF LIMPING ALONG BEHIND THEM.

Difference Between Lifting "Pounds" and "Foot-Pounds"—Evils of Badly Rigged Body With Ropes Too Stiff to Slip Through Tackle Blocks of Joints.



WRITTEN FOR THE SUNDAY REPUBLIC. Everything in this world depends on motion.

Motion is life. Your muscles and the rest of your body are like the stars and planets, wind and tide in this respect.

Their whole value lies in what kind of motion they can perform. When engineers describe engines, water power or any other form of labor-producing motion, they do so by telling how many "foot-pounds" the force can lift or move.

There is a big difference between "foot-pounds" and "pounds." "Pounds" are dead weight.

"Foot-pounds" are moving weights. The muscle that can lift 100 pounds one foot is not nearly as useful as the muscle that can lift twenty-five pounds eight feet.

One is doing only 100 foot-pounds' worth of work, while the other muscle is doing 200 foot-pounds' worth.

This is the first rule. Now there is a second one. Time enters into the matter.

Suppose one boy has muscles that will lift ten pounds one foot in one second.

Now suppose another boy has muscles that will lift only five pounds one foot, but that will do it in a quarter of a second.

Perhaps most persons would say the first boy is twice as strong as the second boy because he can lift twice as much.

But what is strength? It is the power to accomplish certain things in a certain time.

The first boy lifts ten foot-pounds in one second, but the second boy could lift twenty foot-pounds in that one second.

WHY INSTRUCTORS OPPOSE USE OF HEAVY WEIGHTS. This tells the whole story of the comparative values of slow muscles and quick muscles.

It explains why athletic instructors don't want boys to practice with heavy dumb-bells or other weights.

The perfect muscle is the one that can apply its entire strength, whatever it is, in the shortest possible time.

Therefore, the athlete worthy of the name cannot afford to have his muscles developed so that he is muscle-bound.

The muscle-bound man is like a ship whose rigging is made of ropes so huge that they will not move through the tackle-blocks.

Such a ship would be just as badly off as if its ropes were so thin and weak that they would break under the first strain.

The whole body is like a ship, or other engine, full of such ropes, all running back and forth over the pulley-blocks of bones and joints.

If any of these ropes (or muscles) are so knotted that they will not move in the swiftness of a thought, the body of ill balance.

We can follow out the simile of a ship still further.

The ship must not only have stout rigging; its hull, decks, spars and other parts must be in harmony.

A man with big arms and weak legs is like a ship with big masts and a weak keel.

For a person with strong arms and legs and weak lungs is as a ship with spars and hull, but with poor boilers that cannot drive it.

An athlete with great biceps, muscles, magnificent thighs and calves and a poor chest is like a ship with rusty machinery.

If it ever gets near rocks, all the fine hull will not save it.

And many hundreds of "athletes" die every year from organic diseases because they never learned that muscles alone do not mean health, or even true strength.

Never forget that the wonderful power that made this world made nothing without it.

Your muscles are only the outside part of the machinery.

LARGE MUSCLES NOT NECESSARILY STRONG ONES. You wouldn't think much of a watch that has pretty hands and a handsome dial and a fine case if it had cheap works that wouldn't make those pretty hands point to the right time every second.

Well, the person with big muscles and

nothing behind them is not of much more use.

Now to make the body work in harmony with all its parts, hidden and visible, is an easy matter.

It requires only common sense and attention. If you do anything at all—lifting weights, running, jumping—and you feel that you are doing your "wind" your lungs are warning you that they are not able to work as well as your muscles.

What you need to do at once is to reduce the amount of muscular work to a level where the lungs can keep up with it.

If your heart beats fast it is a sign that your muscles are overdeveloping at the expense of the heart.

Call the muscles in. Every bit of work that you do under such circumstances is simply feeding the big, hulking muscle and starving the heart.

This is one of the most serious dangers of athletics, especially when boys are working without an experienced instructor.

Many hundreds, probably thousands, of boys sow the seeds of heart trouble in their youth without knowing it.

They use their muscles and make the heart actually limp along behind.

The heart is such a wonderful organ that it will work until it is killed if a person is foolish enough to let it.

Unlike all the other muscles of the body, it does not need to be driven.

It will increase its labor, steadily and ever faster and faster, as long as the rest of the body demands it until at last the demands become too vast.

VIOLENT EXERCISES WEAKEN AND INJURE THE HEART. But it cannot be helped.

No boy would dream of trying to lift a thousand-pound weight over his head.

But lots of boys and men who practice athletics try practically such tricks with their hearts.

Every time such a thing happens the heart has been hurt, and hurt badly.

They may not find it out while they are young, and while the body is still fresh and active; but when they are 25 or 30 years old, and their body begins to need the best work of the heart, they discover that it is not able to give it to them.

That old strain, incurred perhaps fifteen years before, begins to show.

Remember, then, first of all, that whatever work distresses heart or lungs is bad work.

If an engineer did that with his mere iron locomotive or boilers he would be discharged.

Don't do it with your immeasurably valuable engines and boilers of body.

Yet both lungs and heart must get work in order to be made strong.

No person is an athlete—rather, no person is healthy—unless he can use his muscles and body to their fullest extent without having notice served on him by heart or lungs that they are not able to keep up with the rest of the machine.

Therefore, whatever exercise you do, study that it shall increase the health of those organs in exact accordance with the increase of the rest.

For producing such a fine harmony of heart, lungs and muscles, the light dumb-bells furnish ideal exercises.

Heavy dumb-bells are just the reverse.

Use weights that you can handle and lift and twist without feeling a strain in any part of the body, from the heels to the ears, and without making you gasp or causing your heart to beat too fast.

Some boys can use two or three pound dumb-bells.

Others cannot use any except the very lightest of wooden ones. Let your body be its own guide.

GRIP THE DUMB-BELLS. Whenever you put your hands on the bells grip them as if you meant business.

Make your muscles tense. That in itself is going to give you exercise and increase those pulley ropes of yours.

Lift one bell high overhead with your left arm. Don't be afraid that your arm is going to fly off.

It won't. Stretch it so that the joints crack. Ten to one you are rusty some-

where, and this is going to take the rust out.

Now lean over sideways to the right. Make that body of yours bend until it is limber.

If you are stiff, you are wrong somewhere.

Lean over and over until your out-stretched right arm can bring the right-hand dumb-bell down to the ground.

Now swing over the other way. Keep it up. Don't do it fast and don't do it slowly.

Do it as quickly as you can without setting lungs and heart to jumping.

What you are doing with this exercise is to give your whole body a good shaking down.

You are calling on muscles of loins, thigh, biceps, triceps, abdomen and neck, to do things that they may never have done before.

You are making your machine go as it should go—one, two, three, and all heave together.

Now stand up straight. Brace yourself on your feet so that you are poised as on springs.

Stretch both arms with the dumb-bells straight out ahead of you—far as they will go, and then a little farther. Muscles are contractors.

Their impulse is to shrink together. Give them a stretching. It will do them good.

Now swing both arms in unison, much as if you were working with a scythe, only keep the arms well leveled with the shoulders.

Work as if you really were cutting wheat or grass that is hard to mow.

You will feel your back muscles swell grandly, and if they needed the exercise very badly indeed you may even feel them slipping up and down under your skin.

EVERY SHOULDER MUSCLE SHOULD BE TENSED.

You will get splendid shoulder muscles out of this exercise—the kind that look fine when you go in swimming. But remember! Don't lay through it.

Keep every muscle stretched and working. Make it do something every instant.

Now stand straight again. Let your arms hang at your sides. Without bending them in the least, force them with the dumb-bells, as far behind you as they will go.

Force them back with all your muscles firm. Keep your arm as hard as you can make it. Press back with all your might.

You will feel your shoulder muscles burning all around your neck. They are bound.

Most persons' muscles are bound up there.

That is why they carry their heads so badly.

Free those hands and your head will be as easy in poise as that of an eagle. That alone is something worth having.

You will also feel your biceps muscles complaining against the stretching they are getting. That shows how badly they needed it.

This simple exercise is one of the finest there is.

It exercises all the muscles from the abdomen up. It gives particularly useful work to the triceps or extensor muscle of your arm.

That is the muscle that lies along the lower part of the arm opposite the biceps, which is a flexor muscle.

The biceps bends the arm and the extensor straightens it out or extends it. Usually it gets about one-third of the exercise that is given to the biceps.

Yet an arm with a big biceps and no extensor muscle is as good as a useless arm, the ugliest products of foolish "athletes."

For example, at the Pennsylvania Station, where each twenty-four hours hundreds of trains arrive and will depart, the schedules have to be arranged to make a conflict impossible.

"The adjustment of the time tables depends ultimately upon the chief operating official of the road.

"He notifies the official of each division that a new train, No. 66, is to reach Washington at a certain hour and will depart, after a change of engines, five minutes later, being due to arrive at Greensboro, at the other end of the division, at a certain other hour.

"Each additional train must involve a certain rearrangement of the schedule already in force. If the new train is a 'flyer' the rearrangement amounts almost to disorder. In the case of a special, put on last fall, the schedule of four trains had to be altered. The local or accommodation trains are most affected by these changes.

"They must get out of the way of limited trains in plenty of time, and passengers on the local trains are likely to chafe under the delays that are inevitable.

"When all the data are in hand, the schedule is prepared and notifications are sent out to the division superintendents. But the experimentation does not end there.

There is a great deal to be done in the way of adjusting experiences to operation, so that the train on rolling stock may be least."—Washington Star.

For the moment Santos-Dumont enjoys enormous popularity, says a London paper.

He gave 200,000 or 300,000 people at Longchamp races on Sunday a perfectly novel spectacle, for it is only enthusiasts and the wealthy who have turned up at St. Cloud at dawn.

To the delight of the crowd he plunged over the racecourse and strolled about in the air under perfect control.

Finally he descended and much that was amusing happened.

The moment he put his foot on the course an official demanded one franc for entrance fee. Santos paid, with a merry laugh.

But things became serious; the crowd was so dense that racing would have to be suspended if he did not leave, the stewards told him.

In a moment he was "No. 1."

"Lucky No. 2," said some one in the crowd. "No. 3 won the last race." "Back it for the next," said Santos, and, surely enough, No. 3 did win.

Lord Brougham, as every one knows, writes a contributor to Blackwood retained his extraordinary mental and bodily vigor almost to the last, and, when in his eighty-sixth year or thereabout, eagerly availed himself of an invitation from the headmaster to be one of the distinguished visitors on speech day.

As a compliment to the veteran orator, one of the monitors was told off to recite a "purple patch" from some perfunctory speech on which it was known that he particularly prided himself.

This attempt greatly flattered Lord Brougham's vanity, which had not diminished with the march of time, and at the conclusion of the recital, depositing a very steady-looking hat on his chair, he sprang to his feet and vehemently applauded the intemperer of his bygone eloquence.

But, unfortunately, on resuming his seat he forgot that it was occupied by his hat upon which he sank, with very disastrous consequences!

Of this, however, the expectant crowd of boys in the schoolyard knew nothing, and when at the end of the speech the head of the school called from the top of

probably the most picturesque figure in modern Catholicism, says the London Free Lance, no more faithful servant of the church he loved has ever lived. He was indeed a great priest.

Inside his church he was a power, representing, as he did, that great Catholic aristocracy that has remained faithful through fair weather and foul to the mother church.

A great priest undoubtedly; but can we say a great prelate?

Cardinal Vaughan had conspicuously the faults of the old English Catholics, nor could we wish them less tenacious of their Old World ideals.

They are the living links that bind us to our great history in pre-Reformation days.

But it is at least questionable if a man from their ranks can possibly be competent to conduct a great propaganda among a religiously alien people.

Probably Manning was the most powerful of modern English Cardinals.

He alone had the ear of the people, Catholic and Protestant alike.

Lord Brougham, as every one knows, writes a contributor to Blackwood retained his extraordinary mental and bodily vigor almost to the last, and, when in his eighty-sixth year or thereabout, eagerly availed himself of an invitation from the headmaster to be one of the distinguished visitors on speech day.

As a compliment to the veteran orator, one of the monitors was told off to recite a "purple patch" from some perfunctory speech on which it was known that he particularly prided himself.

This attempt greatly flattered Lord Brougham's vanity, which had not diminished with the march of time, and at the conclusion of the recital, depositing a very steady-looking hat on his chair, he sprang to his feet and vehemently applauded the intemperer of his bygone eloquence.

But, unfortunately, on resuming his seat he forgot that it was occupied by his hat upon which he sank, with very disastrous consequences!

Of this, however, the expectant crowd of boys in the schoolyard knew nothing, and when at the end of the speech the head of the school called from the top of

the steps for "Three cheers for Lord Brougham!" we were convulsed to see them acknowledged by an individual in rusty black, with an "old clo'" broken-crowned hat almost resting on a nose the shape of which has since been emulated by Ally Slopier!

For the moment Santos-Dumont enjoys enormous popularity, says a London paper.

He gave 200,000 or 300,000 people at Longchamp races on Sunday a perfectly novel spectacle, for it is only enthusiasts and the wealthy who have turned up at St. Cloud at dawn.

To the delight of the crowd he plunged over the racecourse and strolled about in the air under perfect control.

Finally he descended and much that was amusing happened.

The moment he put his foot on the course an official demanded one franc for entrance fee. Santos paid, with a merry laugh.

But things became serious; the crowd was so dense that racing would have to be suspended if he did not leave, the stewards told him.

In a moment he was "No. 1."

"Lucky No. 2," said some one in the crowd. "No. 3 won the last race." "Back it for the next," said Santos, and, surely enough, No. 3 did win.

Lord Brougham, as every one knows, writes a contributor to Blackwood retained his extraordinary mental and bodily vigor almost to the last, and, when in his eighty-sixth year or thereabout, eagerly availed himself of an invitation from the headmaster to be one of the distinguished visitors on speech day.

As a compliment to the veteran orator, one of the monitors was told off to recite a "purple patch" from some perfunctory speech on which it was known that he particularly prided himself.

This attempt greatly flattered Lord Brougham's vanity, which had not diminished with the march of time, and at the conclusion of the recital, depositing a very steady-looking hat on his chair, he sprang to his feet and vehemently applauded the intemperer of his bygone eloquence.

But, unfortunately, on resuming his seat he forgot that it was occupied by his hat upon which he sank, with very disastrous consequences!

Of this, however, the expectant crowd of boys in the schoolyard knew nothing, and when at the end of the speech the head of the school called from the top of

the steps for "Three cheers for Lord Brougham!" we were convulsed to see them acknowledged by an individual in rusty black, with an "old clo'" broken-crowned hat almost resting on a nose the shape of which has since been emulated by Ally Slopier!

For the moment Santos-Dumont enjoys enormous popularity, says a London paper.

He gave 200,000 or 300,000 people at Longchamp races on Sunday a perfectly novel spectacle, for it is only enthusiasts and the wealthy who have turned up at St. Cloud at dawn.

To the delight of the crowd he plunged over the racecourse and strolled about in the air under perfect control.

Finally he descended and much that was amusing happened.

The moment he put his foot on the course an official demanded one franc for entrance fee. Santos paid, with a merry laugh.

But things became serious; the crowd was so dense that racing would have to be suspended if he did not leave, the stewards told him.

In a moment he was "No. 1."

"Lucky No. 2," said some one in the crowd. "No. 3 won the last race." "Back it for the next," said Santos, and, surely enough, No. 3 did win.

For example, at the Pennsylvania Station, where each twenty-four hours hundreds of trains arrive and will depart, the schedules have to be arranged to make a conflict impossible.

"The adjustment of the time tables depends ultimately upon the chief operating official of the road.

"He notifies the official of each division that a new train, No. 66, is to reach Washington at a certain hour and will depart, after a change of engines, five minutes later, being due to arrive at Greensboro, at the other end of the division, at a certain other hour.

"Each additional train must involve a certain rearrangement of the schedule already in force. If the new train is a 'flyer' the rearrangement amounts almost to disorder. In the case of a special, put on last fall, the schedule of four trains had to be altered. The local or accommodation trains are most affected by these changes.

"They must get out of the way of limited trains in plenty of time, and passengers on the local trains are likely to chafe under the delays that are inevitable.

"When all the data are in hand, the schedule is prepared and notifications are sent out to the division superintendents. But the experimentation does not end there.

There is a great deal to be done in the way of adjusting experiences to operation, so that the train on rolling stock may be least."—Washington Star.

For the moment Santos-Dumont enjoys enormous popularity, says a London paper.

He gave 200,000 or 300,000 people at Longchamp races on Sunday a perfectly novel spectacle, for it is only enthusiasts and the wealthy who have turned up at St. Cloud at dawn.

To the delight of the crowd he plunged over the racecourse and strolled about in the air under perfect control.

Finally he descended and much that was amusing happened.

The moment he put his foot on the course an official demanded one franc for entrance fee. Santos paid, with a merry laugh.

But things became serious; the crowd was so dense that racing would have to be suspended if he did not leave, the stewards told him.

In a moment he was "No. 1."

"Lucky No. 2," said some one in the crowd. "No. 3 won the last race." "Back it for the next," said Santos, and, surely enough, No. 3 did win.

Lord Brougham, as every one knows, writes a contributor to Blackwood retained his extraordinary mental and bodily vigor almost to the last, and, when in his eighty-sixth year or thereabout, eagerly availed himself of an invitation from the headmaster to be one of the distinguished visitors on speech day.

As a compliment to the veteran orator, one of the monitors was told off to recite a "purple patch" from some perfunctory speech on which it was known that he particularly prided himself.

This attempt greatly flattered Lord Brougham's vanity, which had not diminished with the march of time, and at the conclusion of the recital, depositing a very steady-looking hat on his chair, he sprang to his feet and vehemently applauded the intemperer of his bygone eloquence.

But, unfortunately, on resuming his seat he forgot that it was occupied by his hat upon which he sank, with very disastrous consequences!

Of this, however, the expectant crowd of boys in the schoolyard knew nothing, and when at the end of the speech the head of the school called from the top of

the steps for "Three cheers for Lord Brougham!" we were convulsed to see them acknowledged by an individual in rusty black, with an "old clo'" broken-crowned hat almost resting on a nose the shape of which has since been emulated by Ally Slopier!

For the moment Santos-Dumont enjoys enormous popularity, says a London paper.

He gave 200,000 or 300,000 people at Longchamp races on Sunday a perfectly novel spectacle, for it is only enthusiasts and the wealthy who have turned up at St. Cloud at dawn.

To the delight of the crowd he plunged over the racecourse and strolled about in the air under perfect control.

Finally he descended and much that was amusing happened.

The moment he put his foot on the course an official demanded one franc for entrance fee. Santos paid, with a merry laugh.

But things became serious; the crowd was so dense that racing would have to be suspended if he did not leave, the stewards told him.

In a moment he was "No. 1."

"Lucky No. 2," said some one in the crowd. "No. 3 won the last race." "Back it for the next," said Santos, and, surely enough, No. 3 did win.

Lord Brougham, as every one knows, writes a contributor to Blackwood retained his extraordinary mental and bodily vigor almost to the last, and, when in his eighty-sixth year or thereabout, eagerly availed himself of an invitation from the headmaster to be one of the distinguished visitors on speech day.

As a compliment to the veteran orator, one of the monitors was told off to recite a "purple patch" from some perfunctory speech on which it was known that he particularly prided himself.

This attempt greatly flattered Lord Brougham's vanity, which had not diminished with the march of time, and at the conclusion of the recital, depositing a very steady-looking hat on his chair, he sprang to his feet and vehemently applauded the intemperer of his bygone eloquence.

But, unfortunately, on resuming his seat he forgot that it was occupied by his hat upon which he sank, with very disastrous consequences!

Of this, however, the expectant crowd of boys in the schoolyard knew nothing, and when at the end of the speech the head of the school called from the top of

the steps for "Three cheers for Lord Brougham!" we were convulsed to see them acknowledged by